

**TECHNICAL SPECIFICATIONS
OF
34MW GAS TURBINE PLANT**



1. General

The gas turbine plant (herein after referred to as the Plant) was owned by Tohoku Electric Power Company and commissioned in the premises of Niigata Power Station of Tohoku Electric Power Company in Niigata, Japan in October 2011. Since then the Plant has been operated by Tohoku Electric Power Company until 2017. The total accumulated operation hours and ignition time of the Plant is around 650 hours. In 2018, the Plant was determined to be sold by Tohoku Electric Power Company and it was determined to be disassembled for export in the overseas in a form of scrap and build works. At present as of January 2019, the Plant has been already disassembled and stored at Niigata to be ready for exportation upon receiving order from the Purchaser.

2. Outline of the Plant

The Plant is composed of following main equipment of which outline of respective equipment is as follows:

A. Gas Turbine Unit

- | | |
|--------------------------------|---|
| 1) Rated output power | : 34 MW (Atmospheric temperature: -1°C) |
| 2) Type of gas turbine | : Open cycle gas turbine for continuous operation |
| 3) Manufacturer of gas turbine | : Siemens of Germany |
| 4) Model number of gas turbine | : STG-700 |
| 5) Type of turbine | : 3 stages |
| 6) Combustion temperature | : 1,260°C Class |
| 7) Exhaust gas temperature | : 568°C |
| 8) Exhaust gas volume | : 335,000 m ³ N/h |
| 9) Exhaust mass flow | : 95.0kg/s |
| 10) Electrical efficiency | : 38.2% |
| 11) Drive Shaft Speed | : 3,250-6,500 rpm |
| 12) Number of combustors | : 10 combustors |
| 13) Air compressor | : 17 stages |
| 14) Type of fuel | : City gas (LNG) |

B. Power Generator

- | | |
|------------------------------------|---|
| 1) Manufacturer of power generator | : Siemens |
| 2) Type of power generator | : Horizontal shaft tubular type rotating excitation field three phase current synchronous generator
SGen5-100A-2P 080-20 |
| 3) Number of phase and poles | : 3 phases, 2 poles |
| 4) Rated output at terminal | : 11.5 kV, 50Hz |
| 5) Rated current | : 1,897 A |

C. Main Transformer

- | | |
|-------------------------------------|-----------|
| 1) Manufacturer of main transformer | : Hitachi |
| 2) Number of winding | : 2 |
| 3) Number of phases | : 3 |
| 4) Frequency | : 50Hz |

- 5) Capacity : 38MVA
- 6) Cooling method : ONAN
- 7) Voltage (high tension side) : F161kV-F157, 5kV-R154kV-F150, 5kV-F147kV
- 8) Voltage (low tension side) : 11.2kV
- 9) Short-circuit impedance : 11% (38MVA base)
- 10) Standards : JEC-2200-1995

D. Auxiliary Transformer

- 1) Manufacturer of main transformer : Hitachi
- 2) Number of winding : 2
- 3) Number of phases : 3
- 4) Frequency : 50Hz
- 5) Capacity : 3MVA
- 6) Cooling method : ONAN
- 7) Voltage (high tension side) : F11.8kV-F11, 5kV-R11, 2kV-F10.9kV-F10.6kV
- 8) Voltage (low tension side) : 6.9kV
- 9) Short-circuit impedance : 5% (3MVA base)
- 10) Standards : JEC-2200-1995

E. Auxiliary Transformer for Drivers (GT460V Motor Control Center)

- 1) Manufacturer of main transformer : Hitachi
- 2) Number of winding : 2
- 3) Number of phases : 3
- 4) Frequency : 50Hz
- 5) Capacity : 800kVA
- 6) Cooling method : ONAN
- 7) Voltage (high tension side) : F7.2kV-F7.05kV-R6.9kV-F6.6kV
- 8) Voltage (low tension side) : 460V
- 9) Short-circuit impedance : 6% (800kVA base)
- 10) Standards : JEC-2200-1995

F. Power Back-up System by DC Batteries

The power back-up system by DC batteries for the Plant is designed only for 30 minutes. If the power blackout continues more than 30 minutes due to an extraordinary condition, 154kV crossing gate cannot be operated properly. As the batteries are of lead-acid type these cannot be exported from Japan to abroad therefore new batteries meeting with the requirement shall be supplied. Taking into consideration of local conditions and independent operation of the Plant the DC battery backup system shall be redesigned and

new batteries are to be supplied. The technical specifications of the power backup system by DC batteries are as follow:

Item		Specification	Remarks
Battery	Capacity	400Ah/10h	Continued power supply for the equipment to ensure a continuous operation of the plant even under main power cut or blackout occur.
	Number of Cell	49 cells	2.23V/ cell
	Discharge time	30 minutes	
	Type	Lead-acid battery	MSE Type
	Minimum temp.	5°C	
	Minimum voltage	1.8V/cell	
Charger	Capacity	250A x 1 unit	
	Power input	AC440V	

G. Distribution and Control Panels

General:

(1) Applied Standards

The technical standards applied are one of the following standards:

IEC, ANSI/IEEE, JIS/JEC, JEM

(2) Temperature Conditions

Temperature range for indoor use is – 6 ~40°C and for outdoor use -13 ~40°C.

(3) Power Sources

Below table shows the standards of power sources by usage.

NO	Usage	Frequency	Number of Phases	Voltage	Terminal Voltage
1	AC Control	50Hz	1 ϕ	105V	100V
2	DC Control	DC	-	110V	100V
3	Measuring instrument	50Hz	1 ϕ	105V	100V
4	Control center lighting	50Hz	1 ϕ	105V	100V
5	Machine associated lighting (I)	50Hz	1 ϕ	105V	100V
	Machine associated lighting (II)	50Hz	1 ϕ	210V	200V
6	Space heater in actuator for power driven valve	50Hz	1 ϕ	105V	100V
7	Space heater	50Hz	1 ϕ	210V	200V
		50Hz	3 ϕ	210V	200V
		50Hz	1 ϕ	105V	100V
8	Anti-freezing	50Hz	1 ϕ	210V	200V
		50Hz	Single phase 3 wires	105V	100V
9	For works	50Hz	3 ϕ	210V	200V
		50Hz	1 ϕ	105V	100V

(4) Voltage Fluctuation

Acceptable voltage fluctuation.

- a) AC (control): -10~+10%
- b) DC (control): -10~+10%

(5) Frequency Fluctuation

- a) AC (control): 47.5~51.5Hz (-5~+3%)

(6) Coloring of Conductor / Equipment

Below table shows the color code of conductor / equipment.

Circuit	Phase and Polarity	Color	Remark
3 phase AC	R-phase	Red	
	S-phase	White	
	T-phase	Blue	
	Neutral or Zero	Black	
Single phase AC	First phase	Red	
	Second phase	Blue	
	Natural phase	Black	Single phase 3 wires
DC	Positive Electrode	Red	
	Negative Electrode	Blue	

(7) Coloring of Cable

Below table shows the coloring code of cables.

Circuit	Color
Secondary circuit of instrument voltage transformer	Yellow
Secondary circuit of instrument current transformer	Yellow
Direct current circuit	Yellow
Alternate current circuit	Yellow
Earth grounding circuit	Green
Sealed circuit	Grey
Motor circuit	Yellow or Black

(8) Other equipment

The technical details of gas turbine unit and power generator are to be referred to Appendix-1 Technical Specifications described in a set of As-built Drawing prepared on 23rd January 2012.

3. Major Equipment and Sub-systems

The equipment composing the Plant are not limited to but followings in complete form as erected in the previous location at Niigata Power Station of Tohoku Electric Power Company. The Plant composes equipment, unit and system designed and supplied briefly by two engineering firms such as Siemens and Hitachi. The portion of equipment, unit and system supplied by respective firms are as follows:

(A) Siemens's Supply Portion

- 1) Gas turbine unit
- 2) Power generation unit
- 3) Gas fuel supply system
- 4) Compressed air system
- 5) Air filter
- 6) Air inlet duct
- 7) Air exhaust diffuser
- 8) Frequency static starter
- 9) Power controller
- 10) Packaged Electrical and Electronic Control Compartment
- 11) Converter cubicles
- 12) Battery container
- 13) Motor Control Center
- 14) Fire distinguishing system

(B) Hitachi Supplies Portion

- 1) Main transformer
- 2) Auxiliary transformer
- 3) Circuit breaker
- 4) Low voltage power panel
- 5) Contactor
- 6) Metalclad
- 7) Control center
- 8) Control air compressor
- 9) Fuel gas compression system
- 10) Cooling water circulation system
- 11) Water discharge system
- 12) Pipes, valves and wires
- 13) Tools for testing
- 14) Consumable parts

4. Technical Descriptions of Gas Turbine Power Generator

The technical description of the gas turbine power generator is as outlined below:

4.1 Main System Description

A Gas Turbine Generator Unit is composed of a Gas Turbine with a single shaft that drives a Generator via a speed reducing gear to produce 3 phase, 50 Hz power. The output rate is about 34 MW. It varies with air inlet conditions. The primary fuel that is used is gas fuel.

4.1.1 Gas Turbine

The major features of the Siemens Model STG-700 gas turbine is the following:

- i. The compressor is a 17 stages axial flow design with modulating inlet guide vanes and a pressure ratio of 18.7:1. Inter-stage extraction is used for cooling and sealing air (turbine nozzles, wheel-space and bearing) and for surge control during start-up.
- ii. The combustion system is composed of 10 chambers MNQC type reducing the NOx quality.
- iii. The turbine section has three stages with air cooling on all three nozzle stages and the first and second bucket stages. The rotor is a single shaft, two bearings design with high torque capability incorporating internal air cooling for the turbine section. The direction of shaft rotation is counter-clockwise when facing the gas turbine output flange. The load gear reverses the direction of rotation as it turns the generator rotor.
- iv. The axial flow compressor rotor and the turbine rotor are assembled by flange and are supported by 2 bearings.

In the Gas Turbine combustion chambers an air-fuel mixture is burnt to convert the chemical energy in the fuel to thermal energy, which is then converted into mechanical energy to turn the Generator and compressor. To start-up the Gas Turbine, the starting device (Static Frequency Converter - SFC) feeds the generator at variable frequency, at reduced voltage and at reduced field, the generator works as synchronous motor until the set had reached a sufficient speed for the gas turbine to operate autonomously. At 2,400 rpm, the gas turbine is self-driven in order to continue acceleration. The SFC is then disconnected from generator.

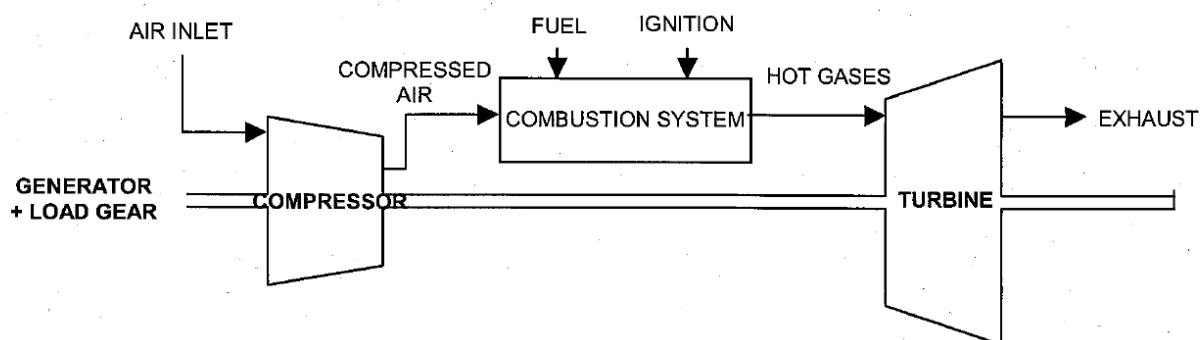
When the shaft line turns, air passes through an air filter, ducts and an air inlet silencer and enters into the axial flow compressor. At the compressor outlet, air passes through flow sleeves and enters a combustion chambers in a controlled manner. Here it is mixed with gas fuel coming through a fuel nozzle assembly. Spark plugs ignite the mixture in two of the combustors, which in turn cross fire to all 6 combustors. The hot mixture of gases from the combustion chambers flows through a transitions places which connects the end

of combustion chamber to the first stage nozzle. In the first stage nozzle the pressure falls, and the gasses are expanded (and thereby accelerated) into the first stage turbine. In the frame STG-700 there are 3 stages in the turbine section. The rise in temperature across the combustors and the additional mass of the fuel increases the mass and volume of the exhaust flow.

As more fuel is injected into the air flow, the higher the temperature and the greater the volume/mass change. The increased gas volume passing through the turbine raises the backpressure and therefore the pressure at the compressor discharge and in the combustors. As the temperature and pressure at the inlet to the turbine nozzle rise the gasses expanding through the nozzle are accelerated to a higher velocity. The higher the entry velocity the more energy is extracted from the gasses by the turbine bucket which is travelling at a fixed velocity and the more power is produced.

The output of the turbine is therefore proportional to the fuel input assuming a constant air supply flow. In the turbine section, each stage is composed of a range of stator blades (nozzles) followed by a range of rotor blades (buckets) mounted on the turning shaft. In each stage of stator blades (nozzles), the gas is expanded into the following range of rotor blades and part of the kinetic energy thus created is converted into mechanical works in the rotor.

The greater mass flow/pressure drop through the turbine the greater the output. After going through all 3 turbines stages, the exhaust gases pass through an exhaust frame and exit the turbine very slightly above atmospheric pressure since they now through an HRSG or by pass stack to atmosphere. The Gas Turbine is installed in an acoustic enclosure to reduce noise emission. The enclosure also ensures the correct ventilation and cooling of the areas around the Gas Turbine.



5. Conversion of Fuel System

The fuel used for the operation of gas turbine unit operated by Tohoku Electric Power Company in Niigata has been a city gas converted from LNG imported from abroad and its fuel system is of single fuel system. The major fuel determined to be used is a recycled

oil from waste plastics of which character is similar or equivalent to diesel fuel approved by local oil company in Bulgaria. Therefore, the fuel system is needed to be converted for dual use of natural gas and such liquid fuel. The fuel system shall be converted from single fuel supply system to dual fuel supply system so as to be operated the gas turbine power generation unit either by natural gas or by liquid fuel. The major fuel to be used is determined to be liquid fuel (recycled and refined oil produced through pyrolysis waste plastics oil recycling plant furnished beside the location of gas turbine power generation plant. The design of conversion of the fuel supply system as such shall be undertaken by Siemens.

6. Conversion of Simple-cycle Gas Turbine to Combined-cycle Gas Turbine

The gas turbine unit dismantled in Japan and exported to the project site is of Simple Open-cycle Gas Turbine type of Siemens Model STG-700. This simple-cycle gas turbine power generator shall be converted to a combined-cycle gas turbine power generator by furnishing a heat recovery system for generation of steam and a steam turbine that is driven by the steam thereby increase the power output to 40-45 MW. The rated output power of this Combined-cycle Gas Turbine power plant shall be determined after examination and design for combining gas turbine power plant and steam turbine power plant.

7. Operation Manuals

The manuals for various equipment, components, apparatuses, etc. are to be supplied prior to the commencement of installation works of the Equipment.

8. General Arrangement and One Line Diagram

The general arrangement of this gas turbine power plant as existed at the power station in Niigata and the one-line diagram of power system is as shown in attached drawings of Appendix-1.

9. List of Major Equipment to be Supplied

The list of major equipment composing the 34MW gas turbine power generating plant is as shown in Appendix-2.

Major Components and General Arrangement of No.6 34MW Gas Turbine Plant as Existed in Niigata, Japan

No.6 Gas Turbine Power Generation Plant – General information

Components of No.6 Gas Turbine Power Generator

Gas Turbine Part

- 1 Gas Turbine
- 2 Air pressure machine
- 3 Combustor
- 4 Generator
- 5 Fuel supply system
- 6 Water injection system
- 7 Initiator
- 8 Air intake and exhaust system
- 9 Fan
- 10 Lubricating system
- 11 Control oil system
- 12 Air compressor
- 13 Nitrogen supply system
- 14 Effluent treatment system
- 15 Central control room

Control Room

- 1 Remote operation station
- 2 Control compartment (1)
- 3 Control compartment (2)

External Part

- 1 Power generator
- 2 Composite gas insulated switching device
- 3 Transformer breaker
- 4 154kV master busbar grounding switch
- 5 Main transformer
- 6 Auxiliary transformer
- 7 GT460V transformer for motor control center
- 8 ACB receiving panel

Fuel Gas Compressor Compartment

- 1 Fuel gas compressor control panel
- 2 Distinguishing CO2 control panel

Transformer Control Panel

- 1 GT210V-105V power distribution panel

List of Major Equipment Composing the Plant

機械名称一覧表(機械)
Machinery Name List (Machinery)

PPE-11-0574(添付1)

NO	機器名称	No	Machinery	略称/Code	手配元	Arrangement	備考
1	ガスタービン関係	1	Gas Turbine Unit				
2	ガスタービン	2	Gas Turbine	GT	GT設	GT Facility	
3	ガスタービン車室	3	Gas Turbine Unit Room		GT設	GT Facility	
4	ガスタービン円板	4	Gas Turbine Disk		GT設	GT Facility	
5	ガスタービン隔板	5	Gas Turbine Cross-plate		GT設	GT Facility	
6	ガスタービン静翼	6	Gas Turbine Static Blade		GT設	GT Facility	
7	ガスタービン動翼	7	Gas Turbine Rotor Blade		GT設	GT Facility	
8	ガスタービン車軸	8	Gas Turbine Axle		GT設	GT Facility	
9	GT前側排気室	9	GT Front Exhaust Room		GT設	GT Facility	
10	GT後側排気室	10	GT After Exhaust Room		GT設	GT Facility	
11	GTターニングクラッチ	11	GT Turning Clutch		GT設	GT Facility	
12	GT空気圧縮機入口ケーシング	12	GT Air Compressor Entrance Casing		GT設	GT Facility	
13	ロードコンパートメント	13	Load Compartment		GT設	GT Facility	
14	GTコンパートメント	14	GT Compartment		GT設	GT Facility	
15	第1軸受	15	Primary Axle Bearing	No.1Brg	GT設	GT Facility	
16	GT空気圧縮機	16	GT Air Compressor		GT設	GT Facility	
17	GT空気圧縮機入口車室	17	GT Air Compressor Entrance Room		GT設	GT Facility	
18	GT空気圧縮機出口車室	18	GT Air Compressor Exit Room		GT設	GT Facility	
19	GT空気圧縮機入口案内翼	19	GT Air Compressor Guiding Blade	IGV	GT設	GT Facility	
20	GT空気圧縮機静翼	20	GT Air Compressor Static Blade		GT設	GT Facility	
21	GT空気圧縮機動翼	21	GT Air Compressor Rotor Blade		GT設	GT Facility	
22	GT空気圧縮機車軸	22	GT Air Compressor Axle		GT設	GT Facility	
23	第2軸受	23	Secondary Axle Bearing	No.2Brg	GT設	GT Facility	
24	調速装置	24	Speed Adjuster		GT設	GT Facility	
25	非常調速装置	25	Emergency Speed Adjuster		GT設	GT Facility	
26	後備非常調速装置	26	Emergency Governor for Speed Change		GT設	GT Facility	
27	GTエンクロージャ	27	GT Enclosure		GT設	GT Facility	
28	GTターニング装置	28	GT Turning Device		GT設	GT Facility	
29	GTターニング装置モータ	29	GT Tuning Motor		GT設	GT Facility	
30	スラスト軸受	30	Thrust Axle		GT設	GT Facility	
31	中間軸	31	Intermediate Axle		GT設	GT Facility	
32	ガスタービン減速機	32	Gas Turbine Speed Reducer		GT設	GT Facility	
33		33					
34		34					
35	空気圧縮機抽気系統	35	Air Compressor Bleeding System		GT設	GT Facility	
36	GT空気圧縮機第6段抽気管	36	GT Air Compressor 6 Stage Bleed Pipe		GT設	GT Facility	
37	GT空気圧縮機第6段ブリード弁	37	GT Air Compressor 6 Stage Bleed Valve		GT設	GT Facility	
38	GT空気圧縮機第13段抽気管	38	GT Air Compressor 13 Stage Bleed Pipe		GT設	GT Facility	
39	GT空気圧縮機第13段ブリード弁	39	GT Air Compressor 13 Stage Bleed Valve		GT設	GT Facility	
40	GT空気圧縮機ブリード弁	40	GT Air Compressor Bleed Valve		GT設	GT Facility	
41		41					
42		42					
43	燃焼計装置	43	Combustion State Measuring Apparatus				
44	燃料ガスコンパートメント	44	Fuel Gas Compartment		GT設	GT Facility	
45	燃料ガス遮断弁	45	Fuel Gas Shut-off Valve	SRV	GT設	GT Facility	
46	燃料ガスベント弁	46	Fuel Gas Bent Valve	VA13-15	GT設	GT Facility	
47	燃料ガス流量調節弁	47	Fuel Gas Flow Volume Adjust Valve	GCV	GT設	GT Facility	
48	燃料ガスマニホールド	48	Fuel Gas Manifold		GT設	GT Facility	
49	燃焼器	49	Combustor		GT設	GT Facility	
50		50					
51	発電機関係	51	Power Generation System				
52	空気冷却器	52	Air Cooling Apparatus		GT設	GT Facility	
53	第3軸受	53	Third Axle Bearing	No.3Brg	GT設	GT Facility	
54	第4軸受	54	Fourth Axle Bearing	No.4Brg	GT設	GT Facility	
55		55					
56		56					
57	燃料関係	57	Fuel System				
58	燃料ガス管	58	Fuel Gas Pipe		GR設、火プ設	GT Facility/Fire	
59	燃料ガス受入遮断弁	59	Fuel Gas Receiving Shut-off Valve		火EP	GT Facility	
60	燃料ガス圧縮機	60	Fuel Gas Compressor		GT設	GT Facility	
61	燃料ガス圧縮機モータ	61	Fuel Gas Compressing Motor		GT設	GT Facility	
62	燃料ガス流量計	62	Fuel Gas Flow Volume Meter		GT設	GT Facility	
63	燃料ガス圧縮機主油ポンプ	63	Fuel Gas Compressor Main Oil Pump		GT設	GT Facility	
64	燃料ガス圧縮機油補給ポンプ	64	Fuel Gas Compressor Auxiliary Oil Pump		GT設	GT Facility	
65	燃料ガス圧縮機油補給ポンプモータ	65	Fuel Gas Compressor Auxiliary Oil Pump Motor		GT設	GT Facility	
66	燃料ガス圧縮機油温度調節弁	66	Fuel Gas Compressor Temperature Adjustment Valve		GT設	GT Facility	
67	燃料ガス圧縮機油供給タンク	67	Fuel Gas Compressor Oil Supply Tank		GT設	GT Facility	
68	燃料ガス圧縮機エンクロージャ	68	Fuel Gas Compressor Enclosure		GT設	GT Facility	
69	燃料ガス圧縮機油ストレーナ	69	Fuel Gas Compressor Oil Strainer		GT設	GT Facility	
70	燃料ガス圧縮機リサイクル弁	70	Fuel Gas Compressor Recycle Valve		GT設	GT Facility	

機械名称一覧表(機械)
Machinery Name List (Machinery)

PPE-11-0574(添付1)

NO	機器名称	No	Machinery	略称/Code	手配元	Arrangement	備考/Remarks
71	燃料関係(つづき)	71	Fuel System (Continued)				
72	燃料ガス圧縮機バイパス弁	72	Fuel Gas Compressor By-pass Valve		GT設	GT Facility	COMPRESSOR BYPASS VALVE
73	燃料ガス圧縮機出口ガス温度調節ルーバ	73	Fuel Gas Compressor Existing Gas Temperature Adjustment Louver		GT設	GT Facility	AUTO LOUVER CONTROL
74	燃料ガス圧縮機ガスクーラ	74	Fuel Gas Compressor Gas Cooler		GT設	GT Facility	1ST STAGE AFTER COOLER
75	燃料ガス圧縮機入口遮断弁	75	Fuel Gas Compressor Entrance Valve		GT設	GT Facility	COMPRESSOR SUCTION VALVE
76	燃料ガス圧縮機燃料ガス入ロスクラバ	76	Fuel Gas Compressor Fuel Gas Entrance Scrubber		GT設	GT Facility	1ST STAGE SUCTION SCRUBBER
77	燃料ガス圧縮機入ロスナツパ	77	Fuel Gas Compressor Fuel Gas Entrance Snapper		GT設	GT Facility	1ST STAGE SUCTION BOTTLE
78	燃料ガス圧縮機出口ロスナツパ	78	Fuel Gas Compressor Fuel Gas Exit Snapper		GT設	GT Facility	1ST STAGE DISCHARGE BOTTLE
79	燃料ガス圧縮機出口コアレササーフィルタ	79	Fuel Gas Compressor Exit Compressor Filter		GT設	GT Facility	COALESCER FILTER
80	燃料ガス圧縮機出口遮断弁	80	Fuel Gas Compressor Fuel Gas Exit Shut-off Valve		GT設	GT Facility	COMPRESSOR DISCHARGE VALVE
81	燃料ガス圧縮機大気放出弁	81	Fuel Gas Compressor Blow-off Valve		GT設	GT Facility	BLOWDOWN VALVE
82	燃料ガス圧縮機廃油タンク	82	Fuel Gas Compressor Waste Oil Tank		GT設	GT Facility	
83		83					
84		84					
85	水噴射関係	85	Water Spray System				
86	水噴射移送配管	86	Water Jet Transportation Plumbing		GT設、火プ設	GT Facility/ Fire Protection	
87	GT水噴射移送ポンプ	87	GT Water Jet Transport Pump		GT設	GT Facility	
88	GT水噴射移送ポンプモータ	88	GT Water Jet Transport Pump Motor		GT設	GT Facility	
89	GT水噴射ポンプ	89	GT Water Jet Pump		GT設	GT Facility	
90	GT水噴射ポンプモータ	90	GT Water Jet Pump Motor		GT設	GT Facility	
91	水噴射流量計	91	Water Jet Flow Volume Meter		GT設	GT Facility	
92	水噴射遮断弁	92	Water Jet Flow Shut-off Valve		GT設	GT Facility	
93	水噴射流量遮断弁	93	Water Jet Flow Volume Shut-off Valve		GT設	GT Facility	
94	水噴射マニホールド	94	Water Jet Manifold		GT設	GT Facility	
95		95					
96		96					
97	起動装置	97	Starter				
98	GT起動モータ	98	GT Starting Motor		GT設	GT Facility	
99	トルクコンバータ	99	Torque Converter		GT設	GT Facility	
100	GT起動クラッチ	100	GT Starting Clutch		GT設	GT Facility	
101		101					
102		102					
103	吸排気設備	103	Air Intake - Exhaust System				
104	吸気室	104	Air Intake Chamber		GT設	GT Facility	
105	吸気フィルタ室	105	Air Intake Filter Chamber		GT設	GT Facility	
106	吸気フィルタ	106	Air Intake Filter		GT設	GT Facility	
107	吸気サイレンサ	107	Air Intake Silencer		GT設	GT Facility	
108	吸気ダクト	108	Air Intake Duct		GT設	GT Facility	
109	吸気プレナム	109	Air Intake Plenum		GT設	GT Facility	
110	ウェザールーバ	110	Weather Louver		GT設	GT Facility	
111	トラッシュクリーン	111	Trach Clean		GT設	GT Facility	
112	第1段 吸気フィルタ(プレフィルタ)	112	Primary Air Intake Filter (Pre-filter)		GT設	GT Facility	
113	第2段 吸気フィルタ(高性能フィルタ)	113	Secondary Air Intake Filter (High Performance Filter)		GT設	GT Facility	
114	第3段 吸気フィルタ(超高性能フィルタ)	114	Third Air Intake Filter (Ultra High Performance Filter)		GT設	GT Facility	
115	排気エキスパンションジョイント	115	Exhaust Gas Expansion Joint		GT設	GT Facility	
116	排気ディフューザ	116	Exhaust Gas Defuser		GT設	GT Facility	
117	排気ダクト	117	Exhaust Gas Duct		GT設	GT Facility	
118	排気サイレン	118	Exhaust Gas Silencer		GT設	GT Facility	
119	煙突	119	Chimney		火建設	Fire Construction	
120		120					
121		121					
122	ファン関係	122	Fans				
123	第1軸受冷却ファン	123	Primary Axle Bearing Cooling Fan		GT設	GT Facility	
124	第1軸受冷却ファンモータ	124	Primary Axle Bearing Cooling Fan Motor		GT設	GT Facility	
125	第1軸受冷却ダクト	125	Primary Axle Bearing Cooling Duct		GT設	GT Facility	
126	GTエンクロージャ換気ファン	126	GT Enclosure Ventilation Fan		GT設	GT Facility	
127	GTエンクロージャ換気ファンモータ	127	GT Enclosure Ventilation Fan Motor		GT設	GT Facility	
128	GTエンクロージャ換気ダクト	128	GT Enclosure Ventilation Duct		GT設	GT Facility	
129	燃料ガス圧縮機エンクロージャ換気ファン	129	Fuel Gas Compressor Enclosure Ventilation Fan		GT設	GT Facility	
130	燃料ガス圧縮機エンクロージャ換気ファンモータ	130	Fuel Gas Compressor Enclosure Ventilation Fan Motor		GT設	GT Facility	
131	燃料ガス圧縮機ガスクーラファン	131	Fuel Gas Compressor Gas Cooler Fan		GT設	GT Facility	
132	燃料ガス圧縮機ガスクーラファンモータ	132	Fuel Gas Compressor Gas Cooler Fan Motor		GT設	GT Facility	
133		133					
134		134					

(機械2/3) (Machinery 2/3)

機械名称一覧表(機械)
Machinery Name List (Machinery)

PPE-11-0574(添付1)

NO	機器名称	NO	Machinery	略称/Code	手配元	Arrangement	備考/Remarks
135	潤滑油装置	135	Lubrication System				
136	主油冷却器	136	Main Lub Oil Cooler				
137	主油タンク	137	Main Lub Oil Tank		GT設	GT Facility	
138	主油タンクガス抽出機	138	Main Tank Gas Extraction Apparatus		GT設	GT Facility	
139	主油タンクガス抽出機モータ	139	Main Tank Gas Extraction Motor		GT設	GT Facility	
140	ミストセパレータ	140	Mist Separator		GT設	GT Facility	
141	主油ポンプ	141	Main Lub Oil Pump	MOP	GT設	GT Facility	
142	主油ポンプモータ	142	Main Lub Oil Pump Motor		GT設	GT Facility	
143	非常用油ポンプ	143	Emergency Lub Oil Pump	EOP	GT設	GT Facility	
144	非常用油ポンプモータ	144	Emergency Lub Oil Pump Motor		GT設	GT Facility	
145	潤滑油フィルタ	145	Lub Oil Filter		GT設	GT Facility	
146	潤滑油温度調節弁	146	Lub Oil Temperature Adjustment Valve		GT設	GT Facility	
147	主油タンクヒータ	147	Main Lub Oil Tank Heater		GT設	GT Facility	
148	潤滑油圧力弁調節弁	148	Lub Oil Pressure Adjustment Valve		GT設	GT Facility	
149	潤滑油移送ポンプ	149	Lub Oil Transfer Pump		GT設	GT Facility	
150		150					
151		151					
152	制御油装置	152	Control Oil System				
153	制御油装置	153	Control Oil Apparatus		GT設	GT Facility	
154	制御油ポンプ	154	Control Oil Pump		GT設	GT Facility	
155	制御油ポンプモータ	155	Control Oil Pump Motor		GT設	GT Facility	
156	制御油フィルタ	156	Control Oil Filter		GT設	GT Facility	
157	制御油アキュムレータ	157	Control Oil Accumulator		GT設	GT Facility	
158		158					
159		159					
160	冷却水関係	160	Cooling Water System				
161	冷却水管	161	Cooling Water Pipes		GT設、火プ設	GT Facility/ Fire Facility	
162	冷却水ポンプ	162	Cooling Water Valves		GT設	GT Facility	
163	冷却水ポンプモータ	163	Cooling Water Pump Motor		GT設	GT Facility	
164	ラジエータ	164	Radiator		GT設	GT Facility	
165	ラジエータファン	165	Radiator Fan		GT設	GT Facility	
166	ラジエータファンモータ	166	Radiator Fan Motor		GT設	GT Facility	
167	冷却水ヘッドタンク	167	Cooling Water Headtank		GT設	GT Facility	
168	冷却水ヘッドタンク補給水弁	168	Cooling Water Headtank Water Supply Pump		GT設	GT Facility	
169		169					
170		170					
171	空気圧縮機	171	Air Compressor				
172	空気圧縮機	172	Air Compressor		GT設	GT Facility	
173	空気圧縮機モータ	173	Air Compressor Motor		GT設	GT Facility	
174	アフターフィルタ	174	After Filter		GT設	GT Facility	
175	空気だめ	175	Air Reservoir		GT設	GT Facility	
176	制御用空気除湿器	176	Control Air Dehumidifier		GT設	GT Facility	
177		177					
178		178					
179	窒素供給装置	179	Nitrogen Gas Supply System				
180	窒素ガスボンベ	180	Nitrogen Gas Cylinders				
181	窒素ガス減圧装置	181	Nitrogen Gas Pressure Reducer				
182		182					
183	排水処理関係	183	Wast Water Treatment System				
184	非常排水ます	184	Emergency Waste Water Catch Basin		電力殿	Power Facility	
185		185					
186		186					
187	配管連絡ピット関係	187	Plumbing Communication Pit Related				
188	燃料ガス配管連絡ピット	188	Fuel Gas Distribution Connection Pit		電力殿	Power Facility	
189		189					
190		190					
191		191					
192		192					
193		193					
194		194					
195		195					
196		196					
197		197					
198		198					
199		199					
200		200					
201		201					
202		202					
203		203					
204		204					
205		205					
206		206					

(機械3/3) (Machinery 3/3)

機械名称一覧表(電気・計装)

Machinery List (Power and Control Facilities)

PPE-11-0574(添付2)

NO	機器名称	NO	Machinery Name	略称/Code	手配元	Arrangement
1	既設中央操作室	1	Central Control Room			
2	6号リモートオペレータステーション	2	Remote Operator Station	R-HMI-6	発電設	Power Facility
3	6号リモートプリンタ	3	Remoter Printer		発電設	Power Facility
4		4			発電設	Power Facility
5	コントロールコンパートメント(1)	5	Control Compartment (1)	CMP-1-6	発電設	Power Facility
6	6号ローカルオペレータステーション	6	Local Operator Station	L-HMI-6	発電設	Power Facility
7	6号ローカルプリンタ	7	Local Printer		発電設	Power Facility
8	6号ガスタービン制御装置盤	8	Gas Turbine Control Panel	TCP-6	発電設	Power Facility
9	6号発電機励磁装置盤	9	Gas Turbine Exciter Control Panel	EXP-6	発電設	Power Facility
10	6号発電機保護継電装置盤	10	Power Generator Protection Relay Control Panel	GPP-6	発電設	Power Facility
11	6号主変圧器・所内変圧器保護継電装置盤	11	Main Transformer/Auxiliary Transformer Protection Relay Panel	TPP-6	発電設	Power Facility
12	6号GT460Vモータコントロールセンタ	12	GT 460V Motor Control Center	CC-4-9	発電設	Power Facility
13		13				Power Facility
14	コントロールコンパートメント(2)	14	Control Compartment (2)	CMP-2-6	発電設	Power Facility
15	6号重電機盤	15	Heavy Electric Control Panel	CHG-6	発電設	Power Facility
16	6号蓄電池	16	Battery	BATT-6	発電設	Power Facility
17	6号GT110V直流コントロールセンタ&直流分電盤	17	GT110V DC Control Center	DC MCC/DB-6	発電設	Power Facility
18	6号アレスタ盤	18	Arrester Panel	ARR-6	発電設	Power Facility
19	6号GT210V-105V分電盤	19	GT210V-105V Power Distribution Panel	DB-2-6	発電設	Power Facility
20		20				
21		21				
22	屋外	22	Outdoor			
23	発電機	23	Power Generator	Gen-6	GT企	GT Facility
24		24				
25	6号複合形ガス絶縁開閉装置	25	Compound Gas Insulation Switching Device	H-GIS	火EP(電制)	Fire Protection
26	6号主変圧器用遮断器	26	Main Transformer Crossing Gate	O16	火EP(電制)	Fire Protection
27	6号154kV母線側設置開閉器	27	154kV Bus Side Switch	89E2	火EP(電制)	Fire Protection
28	6号主変圧器側接地開閉器	28	Main Transformer Side Earthing Switch	89E1	火EP(電制)	Fire Protection
29		29				Fire Protection
30	6号主変圧器	30	Main Transformer	MT-6	火EP(電制)	Fire Protection
31	6号所内変圧器	31	Auxiliary Transformer	HT-6	火EP(電制)	Fire Protection
32	6号メタクラ	32	Metica	MCS-6-6	火EP(電制)	Fire Protection
33	6号GT460Vモータコントロールセンタ用動力変圧器	33	GT 460V Motor Control Center Power Transformer	AUT-6	火EP(電制)	Fire Protection
34	6号GT460VモータコントロールセンタACB受電盤	34	GT 460V Motor Control Center ACB Receiving Panel	I-ACB	火EP(電制)	Fire Protection
35		35				
36	6号発電機主回路盤	36	Power Generator Main Circuit Board	GAC	火EP(電制)	Fire Protection
37		37				
38		38				
39	6号燃料ガス圧縮機制御盤コンパートメント	39	Gas Fuel Compressor Control Compartment		GT設	GT Facility
40	6号燃料ガス圧縮機制御盤	40	Gas Fuel Compressor Control Panel		GT設	GT Facility
41		41				
42		42				
43	6号CO2消火設備制御パネル	43	CO2 Fire Protection Facility Control Panel	CFP-6	GT設	GT Facility
44		44				
45		45				
46	6号GT210V-105V分電盤用変圧器盤	46	Transformer for GT 210V-105V Power Distribution Board	DBTR-2-6	発電設	Power Facility
47		47				
48		48				
49	現場操作箱	49	Field Control Box	L-BOX-6	発電設	Power Facility
50		50				
51	ガスタービン設備	51	Gas Turbine Facility			
52	現場圧力計・温度計・レベル	52	Field Pressure Gauge, Thermometer, Level Meter			
53	6号制御用空気圧縮機エアータンク圧力	53	Air Tank Pressure Gauge for Control Air Compressor		GT設	GT Facility
54	6号窒素ガス減圧装置一次側圧力計	54	Primary Pressure Gauge for Nitrogen Gas Pressure Reducer		GT設	GT Facility
55	6号窒素ガス減圧装置二次側圧力計	55	Secondary Pressure Gauge for Nitrogen Gas Pressure Reducer		GT設	GT Facility
56	6号窒素ガス減圧装置三次側圧力計	56	Tertiary Pressure Gauge for Nitrogen Gas Pressure Reducer		GT設	GT Facility
57	6号主油タンク圧力	57	Main Oil Tank Pressure Gauge		GT設	GT Facility
58	6号潤滑油供給圧力	58	Lubrication Oil Supply Pressure Gauge		GT設	GT Facility
59	6号ミストセパレータ入口圧力	59	Mist Separator Entrance Pressure Gauge		GT設	GT Facility
60	6号ミストセパレータ出口圧力	60	Mist Separator Exit Pressure Gauge		火EP(ポンプ)	Fire Protection
61	6号GT水噴射移送ポンプ入口圧力	61	GT Water Jet Transfer Pump Entrance Pressure Gauge		火EP(ポンプ)	Fire Protection
62	6号GT水噴射移送ポンプ出口圧力	62	GT Water Jet Transfer Pump Exit Pressure Gauge		GT設	GT Facility
63	6号GT水噴射ポンプストレーナ出口圧力	63	GT Water Jet Pump Strainer Exit Pressure Gauge		GT設	GT Facility
64	6号GT水噴射ポンプ出口圧力	64	GT Water Jet Pressure Adjustment Valve Exit Pressure Gauge		GT設	GT Facility
65	6号水噴射遮断弁出口圧力	65	GT Water Jet Pressure Shut-off Valve Exit Pressure Gauge		GT設	GT Facility
66	6号水噴射流量調節弁出口圧力	66	GT Water Jet Pressure Adjustment Valve Exit Pressure Gauge		GT設	GT Facility
67	6号冷却水ポンプ(A)出口圧力	67	Cooling Water (A) Exit Pressure Gauge		GT設	GT Facility
68	6号冷却水ポンプ(B)出口圧力	68	Cooling Water (B) Exit Pressure Gauge		GT設	GT Facility
69	6号主油冷却器入口冷却水圧力	69	Main Lubrication Oil Cooling Water Entrance Pressure Gauge		GT設	GT Facility
70	6号主油冷却器出口冷却水圧力	70	Main Lubrication Oil Cooling Water Exit Pressure Gauge		GT設	GT Facility

(電気・計装1/5) (Power Facility / Control System 1/5)

機械名称一覧表(電気・計装)

Machinery Name List (Power Facility and Control Facility)

PPE-11-0574(添付2)

NO	機器名称	NO	Machinery	略称/Code	手配元	Arrangement
71	ガスタービン設備(つづき)	71	Gas Turbine Related (continued)			
72	現場圧力計・温度計・レベル(つづき)	72	Field Pressure, Temperature, Level Gauge (Continued)			
73	6号充填所側潤滑油圧力	73	Oil Feeding Room Side Lubrication Oil Pressure Gauge		火EP(弁)	Fire System
74		74				
75	6号燃料ガストレーナ差圧	75	Fuel Gas Strainer Differential Pressure Gauge		GT設	GT Facility
76	6号制御用空気圧縮機プレフィルタ差圧	76	Control Air Pressure Pre-filter Differential Pressure Gauge		GT設	GT Facility
77	6号制御用空気圧縮機アフターフィルタ差圧	77	Control Air Pressure After-filter Differential Pressure Gauge		GT設	GT Facility
78	6号潤滑油フィルタ差圧	78	Lubrication Oil Filter Differential Pressure Gauge		GT設	GT Facility
79	6号ミストセパレータ差圧	79	Mist Separator Differential Pressure Gauge		GT設	GT Facility
80	6号潤滑油フィルタ差圧	80	Lubrication Oil Filter Differential Pressure Gauge		GT設	GT Facility
81	6号水噴射フィルタ差圧	81	Water Jet Filter Differential Pressure Gauge		GT設	GT Facility
82	6号冷却水ポンプ入口ストレーナ差圧	82	Cooling Water Pump Entrance Strainer Differential Pressure Gauge		GT設	GT Facility
83		83				GT Facility
84	6号燃料ガス圧縮機入口温度	84	Fuel Gas Compressor Entrance Temperature Gauge		火EP(弁)	GT Facility
85	6号主油タンク内温度	85	Main Lubrication Oil Tank Inner Temperature Gauge		GT設	GT Facility
86	6号ミストセパレータ入口温度	86	Mist Separator Entrance Temperature Gauge		GT設	GT Facility
87	6号主油冷却器入口油温度	87	Main Lubrication Oil Cooler Entrance Temperature Gauge		GT設	GT Facility
88	6号主油冷却器出口油温度	88	Main Lubrication Oil Cooler Exit Temperature Gauge		GT設	GT Facility
89	6号GT水噴射ポンプ入口温度	89	GT Water Jet Pump Entrance Temperature Gauge		GT設	GT Facility
90	6号主油冷却器出口冷却水温度	90	Main Lubrication Oil Cooler Water Temperature Gauge		GT設	GT Facility
91		91				GT Facility
92	6号主油タンクレベル	92	Main Lubrication Oil Tank Level		GT設	GT Facility
93	6号冷却水ヘッドタンクレベル	93	Cooling Water Head tank Water Level		GT設	GT Facility
94		94				
95	圧力テスト座	95	Pressure Test Bench			
96	6号燃料ガス遮断弁入口圧力	96	Fuel Gas Shut-off Valve Pressure		火EP(弁)	Fire (valve)
97		97				
98	圧力SW・温度・レベル・差圧・ドラフト	98	Pressure SW, temperature, level, differential pressure, draft			
99	6号CO2消火設備 ガス放出圧力	99	CO2 Fire Protection System Gas Discharge Pressure		GT設/INT用	GT Facility/INT
100	6号制御用空気圧縮機出口圧力	100	Control Air Pressure Exist Pressure Gauge		GT設/警報用	GT Facility/Alarm
101		101				
102	6号冷却水ヘッドタンクレベル	102	Cooling Water Tank Level		GT設/INT用	GT Facility/INT
103		103				
104	一般発信器・調節計	104	Common Transmitter, Adjustment Measuring Devices			
105	6号プレフィルタ差圧	105	Pre-filter Differential Pressure		GT設/監視用	GT Facility/Survey
106	6号高性能フィルタ差圧	106	High Performance Filter Differential Pressure		GT設/監視用	GT Facility/Survey
107	6号超高性能フィルタ差圧	107	Ultra High Performance Filter Differential Pressure		GT設/監視用	GT Facility/Survey
108		108				
109	6号燃料ガス圧縮機入口圧力	109	Fuel Gas Compressor Entrance Pressure		火EP(弁)/監視用	Fire (valve)
110	6号燃料ガス流量出口圧力	110	Fuel Gas Compressor Exit Pressure		GT設/監視用	GT Facility/Survey
111	6号燃料ガス遮断弁入口圧力	111	Fuel Gas Shut-off Valve Entrance Pressure		GT設/監視用	GT Facility/Survey
112	6号燃料ガス遮断弁出口圧力	112	Fuel Gas Shu-off Valve Exit Pressure		GT設/制御用	GT Facility/Survey
113	6号燃料ガス流量出口圧力遮断弁出口圧力2	113	Fuel Gas Flow Volume Pressure Shut-off Pressure		GT設/制御用	GT Facility/Survey
114	6号GT空気圧縮機入口圧力(全圧)	114	GT Air Compressor Entrance Pressure (Total Pressure)		GT設/監視用	GT Facility/Survey
115	6号GT空気圧縮機入口圧力(動圧)	115	GT Air Compressor Entrance Pressure (Dynamic Pressure)		GT設/監視用	GT Facility/Survey
116	6号GT空気圧縮機出口圧力1	116	GT Air Compressor Exit Pressure-1		GT設/保護用	GT Facility/Protection
117	6号GT空気圧縮機出口圧力2	117	GT Air Compressor Exit Pressure-2		GT設/保護用	GT Facility/Protection
118	6号GT空気圧縮機出口圧力3	118	GT Air Compressor Exit Pressure-3		GT設/保護用	GT Facility/Protection
119	6号主油ポンプ出口圧力1	119	Main Lubrication Oil Pump Exit Pressure-1		GT設/INT用	GT Facility/INT
120	6号主油ポンプ出口圧力2	120	Main Lubrication Oil Pump Exit Pressure-2		GT設/INT用	GT Facility/INT
121	6号潤滑油圧力1	121	Lubrication Oil Pressure-1		GT設/保護用	GT Facility/Protection
122	6号潤滑油圧力2	122	Lubrication Oil Pressure-2		GT設/保護用	GT Facility/Protection
123	6号潤滑油圧力3	123	Lubrication Oil Pressure-3		GT設/保護用	GT Facility/Protection
124		124				
125	6号制御油圧力1	125	Control Oil Pressure-1		GT設/保護用	GT Facility/Protection
126	6号制御油圧力2	126	Control Oil Pressure-2		GT設/保護用	GT Facility/Protection
127	6号制御油圧力3	127	Control Oil Pressure-3		GT設/保護用	GT Facility/Protection
128	6号燃料ガス遮断用遮断油圧力1	128	Shut-off Oil Pressure for Fuel Gas Shut-off-1		GT設/保護用	GT Facility/Protection
129	6号燃料ガス遮断用遮断油圧力2	129	Shut-off Oil Pressure for Fuel Gas Shut-off-2		GT設/保護用	GT Facility/Protection
130	6号燃料ガス遮断用遮断油圧力3	130	Shut-off Oil Pressure for Fuel Gas Shut-off-3		GT設/保護用	GT Facility/Protection
131	6号GT水噴射ポンプ出口圧力	131	GT Water Jet Pump Exit Pressure		GT設/監視用	GT Facility/Protection
132	6号機冷却水ポンプ出口冷却圧力	132	Cooling Water Exit Pressure		GT設/INT用	GT Facility/INT
133	6号ラジエータ入口冷却水圧力	133	Radiator Entrance Water Pressure		GT設/監視用	GT Facility/Protection
134	6号ラジエータ出口冷却水圧力	134	Radiator Exit Water Pressure		GT設/監視用	GT Facility/Protection
135		135				
136	6号主油タンクレベル	136	Main Lubrication Oil Tank Level		GT設/INT用	GT Facility/INT
137		137				
138		138				
139		139				
140		140				

(電気・計装2/5) (Power and Control Facility - 2/5)

機械名称一覧表(電気・計装)
Machinery Name List (Power Facility and Control Facility)

PPE-11-0574(添付2)

NO	機器名称	NO	Machinery	略称/Code	手配元	Arrangement
141	ガスタービン設備(つづき)	141	Gas Turbine Related (continued)			
142	一般信器・調節計(つづき)	142	Transmitter, adjustment (continued)			
143	6号燃料ガス流量1	143	Fuel Gas Flow Volume-1		GT設/制御用	GT Facility/Control
144	6号燃料ガス流量2	144	Fuel Gas Flow Volume-2		GT設/制御用	GT Facility/Control
145	6号水噴射流量1	145	Water Jet Flow Volume-1		GT設/監視用	GT Facility/Survey
146	6号水噴射流量2	146	Water Jet Flow Volume-2		GT設/監視用	GT Facility/Survey
147	6号NOx・O2分析計(NOx) 6号NOx・O2分析計(O2換算NOx) 6号NOx・O2分析計(O2)	147	NOx O2 Analyzer (NOx) NOx O2 Analyzer (O2 converting to NOx) NOxO2 Analyzer (O2)		GT設/警報用	GT Facility/Alarm
148	6号GTコンパートメントガス検知1	148	GT Compartment Gas Detector-1		GT設/警報用	GT Facility/Alarm
149	6号GTコンパートメントガス検知2	149	GT Compartment Gas Detector-2		GT設/警報用	GT Facility/Alarm
150	6号燃料ガスコンパートメントガス検知1	150	Fuel Gas Compartment Detector-1		GT設/警報用	GT Facility/Alarm
151	6号燃料ガスコンパートメントガス検知2	151	Fuel Gas Compartment Detector-2		GT設/警報用	GT Facility/Alarm
152	6号燃料ガス圧縮機エンクロージャガス検知1	152	Fuel Gas Compression Enclosure Gas Detector-1		GT設/警報用	GT Facility/Alarm
153	6号燃料ガス圧縮機エンクロージャガス検知2	153	Fuel Gas Compression Enclosure Gas Detector-2		GT設/警報用	GT Facility/Alarm
154		154				
155	6号燃料ガス遮断弁開度1	155	Fuel Gas Shut-off Valve Opening-1		GT設/制御用	GT Facility/Control
156	6号燃料ガス遮断弁開度2	156	Fuel Gas Shut-off Valve Opening-2		GT設/制御用	GT Facility/Control
157	6号燃料ガス流量調整弁開度1	157	Fuel Gas Flow Volume Adjustment Valve Opening-1		GT設/制御用	GT Facility/Control
158	6号燃料ガス流量調整弁開度2	158	Fuel Gas Flow Volume Adjustment Valve Opening-2		GT設/制御用	GT Facility/Control
159	6号GT空気圧縮機入口案内翼開度1	159	GT Air Compressor Entrance Guide Vane Opening-1		GT設/監視用	GT Facility/Control
160	6号GT空気圧縮機入口案内翼開度2	160	GT Air Compressor Entrance Guide Vane Opening-2		GT設/保護用	GT Facility/Control
161		161				
162	6号第1軸受軸振動X	162	First Axle Bearing Vibration-X		GT設/保護用	GT Facility/Protection
163	6号第1軸受軸振動Y	163	First Axle Bearing Vibration-Y		GT設/保護用	GT Facility/Protection
164	6号第2軸受軸振動X	164	Second Axle Bearing Vibration-X		GT設/保護用	GT Facility/Protection
165	6号第2軸受軸振動Y	165	Second Axle Bearing Vibration-Y		GT設/保護用	GT Facility/Protection
166	6号GT回転速度1	166	GT Rotating Speed-1		GT設/保護用	GT Facility/Protection
167	6号GT回転速度2	167	GT Rotating Speed-2		GT設/保護用	GT Facility/Protection
168	6号GT回転速度3	168	GT Rotating Speed-3		GT設/保護用	GT Facility/Protection
169	6号GT回転速度4	169	GT Rotating Speed-4		GT設/保護用	GT Facility/Protection
170	6号GT回転速度5	170	GT Rotating Speed-5		GT設/保護用	GT Facility/Protection
171	6号GT回転速度6	171	GT Rotating Speed-6		GT設/保護用	GT Facility/Protection
172	6号GTキーフェーザー	172	GT Key Phaser		GT設/保護用	GT Facility/Protection
173		173				
174		174				
175	温度検出器	175	Temperature Detectors			
176	6号GTインナーバレル温度1	176	GT Inner Barrel Temperature-1		GT設/監視用	GT Facility/Survey
177	6号GTインナーバレル温度2	177	GT Inner Barrel Temperature-2		GT設/監視用	GT Facility/Survey
178	6号GT第1段動翼前側外部ホイールスペース温度1	178	GT First Moving Blade Front Side External Wheel Space Temperature-1		GT設/監視用	GT Facility/Survey
179	6号GT第1段動翼前側外部ホイールスペース温度2	179	GT First Moving Blade Front Side External Wheel Space Temperature-2		GT設/監視用	GT Facility/Survey
180	6号GT第2段動翼後側外部ホイールスペース温度1	180	GT Second Moving Blade Back Side External Wheel Space Temperature-1		GT設/監視用	GT Facility/Survey
181	6号GT第2段動翼後側外部ホイールスペース温度2	181	GT Second Moving Blade Back Side External Wheel Space Temperature-2		GT設/監視用	GT Facility/Survey
182	6号GT第3段動翼前側外部ホイールスペース温度1	182	GT Third Moving Blade Front Side External Wheel Space Temperature-1		GT設/監視用	GT Facility/Survey
183	6号GT第3段動翼前側外部ホイールスペース温度2	183	GT Third Moving Blade Front Side External Wheel Space Temperature-2		GT設/監視用	GT Facility/Survey
184	6号GT第4段動翼後側外部ホイールスペース温度1	184	GT Fourth Moving Blade Front Side External Wheel Space Temperature-1		GT設/監視用	GT Facility/Survey
185	6号GT第4段動翼後側外部ホイールスペース温度2	185	GT Fourth Moving Blade Back Side External Wheel Space Temperature-2		GT設/監視用	GT Facility/Survey
186	6号燃料ガス流量計出口温度	186	Fuel Gas Flow Meter Exit Temperature		GT設/監視用	GT Facility/Survey
187		187				
188	6号GT排気ガス温度1	188	GT Exhaust Gas Temperature-1		GT設/保護用	GT Facility/Protection
189	6号GT排気ガス温度2	189	GT Exhaust Gas Temperature-2		GT設/保護用	GT Facility/Protection
190	6号GT排気ガス温度3	190	GT Exhaust Gas Temperature-3		GT設/保護用	GT Facility/Protection
191	6号GT排気ガス温度4	191	GT Exhaust Gas Temperature-4		GT設/保護用	GT Facility/Protection
192	6号GT排気ガス温度5	192	GT Exhaust Gas Temperature-5		GT設/保護用	GT Facility/Protection
193	6号GT排気ガス温度6	193	GT Exhaust Gas Temperature-6		GT設/保護用	GT Facility/Protection
194	6号GT排気ガス温度7	194	GT Exhaust Gas Temperature-7		GT設/保護用	GT Facility/Protection
195	6号GT排気ガス温度8	195	GT Exhaust Gas Temperature-8		GT設/保護用	GT Facility/Protection
196	6号GT排気ガス温度9	196	GT Exhaust Gas Temperature-9		GT設/保護用	GT Facility/Protection
197	6号GT排気ガス温度10	197	GT Exhaust Gas Temperature-10		GT設/保護用	GT Facility/Protection
198	6号GT排気ガス温度11	198	GT Exhaust Gas Temperature-11		GT設/保護用	GT Facility/Protection
199	6号GT排気ガス温度12	199	GT Exhaust Gas Temperature-12		GT設/保護用	GT Facility/Protection
200	6号GT排気ガス温度13	200	GT Exhaust Gas Temperature-13		GT設/保護用	GT Facility/Protection
201	6号GT排気ガス温度14	201	GT Exhaust Gas Temperature-14		GT設/保護用	GT Facility/Protection
202	6号GT排気ガス温度15	202	GT Exhaust Gas Temperature-15		GT設/保護用	GT Facility/Protection
203	6号GT排気ガス温度16	203	GT Exhaust Gas Temperature-16		GT設/保護用	GT Facility/Protection
204	6号GT排気ガス温度17	204	GT Exhaust Gas Temperature-17		GT設/保護用	GT Facility/Protection
205	6号GT排気ガス温度18	205	GT Exhaust Gas Temperature-18		GT設/保護用	GT Facility/Protection
206	6号GTコンパートメント内温度	206	GT Compartment Internal Temperature		GT設/監視用	GT Facility/Survey
207		207				
208		208				
209		209				

(電気・計装3/5) (Power and Control Facility -3/5)

機械名称一覧表(電気・計装)

Machinery Name List (Power Facility and Control Facility)

PPE-11-0574(添付2)

NO	機器名称	NO	Machinery	略称/Code	手配元	Arrangement
210	ガスタービン設備(つづき)	210	Gas Turbine facility (continued)			
211	温度検出器(つづき)	211	Temperature Detector (continued)			
212	6号第1軸受エリア火災検知1	212	First Axle Bearing Area Fire Detector-1		GT設/保護用	GT Facility/Protection
213	6号第1軸受エリア火災検知2	213	First Axle Bearing Area Fire Detector-2		GT設/保護用	GT Facility/Protection
214	6号第1軸受エリア火災検知3	214	First Axle Bearing Area Fire Detector-3		GT設/保護用	GT Facility/Protection
215	6号GTコンパートメント火災検知1	215	GT Compartment Fire Detector-1		GT設/保護用	GT Facility/Protection
216	6号GTコンパートメント火災検知2	216	GT Compartment Fire Detector-2		GT設/保護用	GT Facility/Protection
217	6号GTコンパートメント火災検知3	217	GT Compartment Fire Detector-3		GT設/保護用	GT Facility/Protection
218	6号燃料ガスコンパートメント火災検知1	218	Fuel Gas Compartment Fire Detector-1		GT設/保護用	GT Facility/Protection
219	6号燃料ガスコンパートメント火災検知2	219	Fuel Gas Compartment Fire Detector-2		GT設/保護用	GT Facility/Protection
220	6号燃料ガスコンパートメント火災検知3	220	Fuel Gas Compartment Fire Detector-3		GT設/保護用	GT Facility/Protection
221	6号ロードコンパートメント火災検知1	221	Load Compartment Fire Detector-1		GT設/保護用	GT Facility/Protection
222	6号ロードコンパートメント火災検知2	222	Load Compartment Fire Detector-2		GT設/保護用	GT Facility/Protection
223	6号ロードコンパートメント火災検知3	223	Load Compartment Fire Detector-3		GT設/保護用	GT Facility/Protection
224		224				
225	6号GT空気圧縮機入口温度1	225	GT Air Compressor Entrance Temperature-1		GT設/保護用	GT Facility/Protection
226	6号GT空気圧縮機入口温度2	226	GT Air Compressor Entrance Temperature-2		GT設/保護用	GT Facility/Protection
227	6号GT空気圧縮機入口温度3	227	GT Air Compressor Entrance Temperature-3		GT設/保護用	GT Facility/Protection
228	6号GT空気圧縮機出口温度1	228	GT Air Compressor Exit Temperature-1		GT設/保護用	GT Facility/Protection
229	6号GT空気圧縮機出口温度2	229	GT Air Compressor Exit Temperature-2		GT設/保護用	GT Facility/Protection
230	6号主油タンク温度	230	Main Lubrication Oil Tank Temperature		GT設/INT用	GT Facility/INT
231	6号主油冷却器出口潤滑油温度1	231	Main Cooling Water Exit Lubrication Oil Temperature-1		GT設/制御用	GT Facility/Control
232	6号主油冷却器出口潤滑油温度2	232	Main Cooling Water Exit Lubrication Oil Temperature-2		GT設/制御用	GT Facility/Control
233	6号主油冷却器出口潤滑油温度3	233	Main Cooling Water Exit Lubrication Oil Temperature-3		GT設/制御用	GT Facility/Control
234	6号第1軸受排油温度	234	First Axle Bearing Drain Oil Temperature		GT設/監視用	GT Facility/Survey
235	6号第2軸受排油温度	235	Second Axle Bearing Drain Oil Temperature		GT設/監視用	GT Facility/Survey
236	6号スラット軸受排油温度	236	Axle Bearing Drain Oil Temperature		GT設/監視用	GT Facility/Survey
237	6号GT減速機ギア入力軸側軸受排油温度(GT側)	237	GT Speed Reducer Gear Inlet-side Axle Bearing Drain Oil Temperature (GT side)		GT設/監視用	GT Facility/Survey
238	6号GT減速機ギア入力軸側軸受排油温度(GEN側)	238	GT Speed Reducer Gear Inlet-side Axle Bearing Drain Oil Temperature (GEN side)		GT設/監視用	GT Facility/Survey
239	6号GT減速機ギア出力軸側軸受排油温度(GT側)	239	GT Speed Reducer Gear Outlet-side Axle Bearing Drain Oil Temperature (GT side)		GT設/監視用	GT Facility/Survey
240	6号GT減速機ギア出力軸側軸受排油温度(GEN側)	240	GT Speed Reducer Gear Outlet-side Axle Bearing Drain Oil Temperature (GEN side)		GT設/監視用	GT Facility/Survey
241	6号冷却水ポンプ出口冷却水温度	241	Cooling Water Pump Outlet Cooling Water Temperature		GT設/INT用	GT Facility/INT
242	6号ラジエータ入口冷却水音度	242	Radiator Inlet Cooling Water Temperature		GT設/監視用	GT Facility/Survey
243	6号ラジエータ出口冷却水温度	243	Radiator Outlet Cooling Water Temperature		GT設/監視用	GT Facility/Survey
244		244				
245		245				
246	流量検出器	246	Flow Volume Detector			
247	6号燃料ガス流量	247	Fuel Gas Flow Volume		GT設	GT Facility
248	6号水噴射流量1	248	Water Jet Flow Volume-1		GT設	GT Facility
249	6号水噴射流量2	249	Water Jet Flow Volume-2		GT設	GT Facility
250		250				
251		251				
252	信号分配器・変換器・モニタSW等中間計器	252	Signal Distribution Panel, Converter, Monitor SW etc.		GT設	GT Facility
253	6号GT第1軸受振動Xドライバ	253	GT First Axle Bearing Vibration X Driver		GT設	GT Facility
254	6号GT第1軸受振動Yドライバ	254	GT First Axle Bearing Vibration Y Driver		GT設	GT Facility
255	6号GT第2軸受振動Xドライバ	255	GT Second Axle Bearing Vibration X Driver		GT設	GT Facility
256	6号GT第2軸受振動Yドライバ	256	GT Second Axle Bearing Vibration Y Driver		GT設	GT Facility
257	6号GTキーフェザードライバ	257			GT設	GT Facility
258		258				
259		259				
260	リミットSW	260	Limit Switch			
261	6号CO2消火設備閉止弁全開	261	CO2 Fire Distinguishing System Shut-off Valve Full Open		GT設	GT Facility
262	6号CO2消火設備閉止弁全閉	262	CO3 Fire Distinguishing System Shut-off Valve Full Close		GT設	GT Facility
263	6号燃料ガス受入遮断弁全開	263	Fuel Gas Receiving Shut-off Valve Full Open		火EP(弁)	Fire Protection
264	6号燃料ガス受入遮断弁全閉	264	Fuel Gas Receiving Shut-off Valve Full Close		火EP(弁)	Fire Protection
265	6号GT起動クラッチ啮合い	265	Starter Crutch Engagement		GT設	GT Facility
266	6号GTターニング装置クラッチ啮合い	266	GT Turning Device Crutch Engagement		GT設	GT Facility
267	6号GTターニング装置クラッチハンドターニング位置	267	GT Turning Device Crutch Hand Turbine Position		GT設	GT Facility
268	6号GT空気圧縮機6段ブリード弁全開	268	GT Air Compressor Sixth Bleed Valve Full Open		GT設	GT Facility
269	6号GT空気圧縮機13段ブリード弁全開	269	GT Air Compressor Sixth Bleed Valve Full Close		GT設	GT Facility
270	6号水噴射遮断弁全開	270	Water Jet Shut-off Valve Full Open		GT設	GT Facility
271	6号冷却水ヘッドタンク補給水弁全開	271	Cooling Water Head Tank Make-up Water Valve Full Open		GT設	GT Facility
272		272				
273	ガスタービン設備(つづき)	273				
274	電気弁・電磁駆動装置	274	Electric Control Valve/Electric Magnetic Driving Device			
275		275				
276		276				
277		277				
278		278				
279		279				
280		280				

(電気・計装4/5) (Power and Control Facility -4/5)